DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND
NAVAL AIR SYSTEMS COMMAND HEADQUARTERS
47123 BUSE ROAD, UNIT # 8
PATUXENT RIVER, MD 20670-1547

IN REPLY REFER TO

NAVAIRINST 4790.22A
AIR-3.6.1
26 May 99

NAVAIR INSTRUCTION 4790.22A

From: Commander, Naval Air Systems Command

Subj: MAINTENANCE PLAN PROGRAM

Ref: (a) DOD Directive 5000.1
(b) DOD 5000.2-R
(c) SECNAVINST 5000.2B
(d) MIL-HDBK-502, DoD Handbook Acquisition Logistics
(e) MIL-PRF-49506, Performance Specification Logistics Management Information
(f) NAVAIR Contracting for Supportability Guide
(g) NAVAIRINST 4790.20
(h) NAVAIRINST 4423.11
(i) OPNAVINST 4790.2G
(j) OPNAVINST 8600.2B
(k) Defense Logistics Information Services Provisioning Screening User Guide
(l) OPNAVINST 4440.25
(m) NAVAIRINST 13070.7

Encl: (1) Maintenance Plan (Format)
(2) Maintenance Plan Status Information

1. Purpose. To establish policy and responsibilities for the Naval Air Systems Command (NAVAIR) Maintenance Plan (MP) Program.

2. Cancellation. This instruction cancels NAVAIR Instruction 4790.22 of 5 April 1991 and NAVAIRNOTE 4790 of 23 June 1995. Since this is a major revision, changes are not indicated.

3. Scope. This instruction applies to:

a. All new systems and equipment procured by, or for, the Naval Aviation Systems Team (TEAM), including equipment manufactured or procured by field activities or inventory control points. These systems and equipment include aeronautical equipment, airborne weapons, targets, and armament (including air-launched missiles and aviation ordnance), Unmanned Aerial Vehicles (UAVs) and associated systems, trainers and training equipment, support equipment, structure components, avionics equipment, power plants, Aviation Life Support

Systems (ALSS), Aircraft Launch and Recovery Equipment (ALRE) including catapult, arresting gear, visual landing aids and associated equipment, photographic equipment, imaging and reconnaissance equipment, meteorological equipment, and air traffic control equipment.

b. All in-service systems and equipment, as identified in paragraph 3a, supported by the TEAM.

c. Any Commercial and Non-Developmental Items (CaNDI) or Contractor Logistics Support (CLS) items procured by, or for, the TEAM.

4. Information

a. References (a) through (c) mandate systems engineering processes be used throughout the life cycle to influence support considerations. Systems engineering principles are implemented through the Integrated Product Team (IPT) concept, where all acquisition functional disciplines work together to arrive at the optimal support concepts for all defense acquisition programs. Though no rigid guidelines are specified for support system development, the resulting concept must be widely accepted and understood by each functional discipline to ensure that optimum readiness is achieved for fielded systems. Development of a MP as the source of approved maintenance planning information is key to ensuring success for fielded systems.

b. Maintenance planning information is the foundation for ensuring supportability and affordability of fielded systems. The MP Program ensures required maintenance planning information is available and accessible to all TEAM members. Minimum maintenance planning information must be provided to address the fielded baseline design configuration. Data, which reflects an approved, stable design, is a requirement of reference (b), and will enable the Assistant Project Manager, Logistics (APML) and Fleet Support Team (FST) to perform accurate trade-offs, to determine the most affordable overall support solution.

c. Development of the MP begins with the Operational Requirements Document (ORD), which identifies key performance parameters, and the anticipated operational environment. The ORD leads to the establishment of an initial maintenance concept in the concept exploration phase. It should reflect existing naval aviation maintenance policy and program, design, cost, readiness, and operational requirements for the item that is to be supported. The maintenance concept then evolves into the MP during the various phases of acquisition to become the basis for all maintenance planning. All functional areas of the IPT must coordinate and interface to maximize

the usage of data developed by each program element and eliminate costly duplications of effort.

d. A MP should be used throughout the support infrastructure, as well as, by all operational activities. The MP identifies repairable components and maintenance significant consumables. It describes the maintenance requirements and tasks to be accomplished for restoring or maintaining the operational capability of a system or equipment. MPs include information for preventive and corrective maintenance requirements, including calibration. Details relating to preventive and corrective maintenance requirements include task description, frequency, duration, and level of maintenance, and support resources including support equipment requirements. Details that are required for repairable components and maintenance significant consumables include Source, Maintenance and Recoverability (SM&R) codes, as well as maintenance replacement factor and maintenance replacement rate for such "P" series source code items.

e. References (d) through (f) address the acquisition and use of maintenance planning information in coordination with data from other functional areas. The supportability analysis summaries of references (d) and (e) provide sufficient detail to allow for acquisition and sustainment of supportability resources. The Data Product Dictionary (DPD), addressed in reference (e), along with additional information in references (d) and (f), should be tailored to fit program requirements. Maintenance planning information is developed through application of supportability analyses, including determination of preventive maintenance requirements using reference (g), determination of least cost corrective maintenance requirements using level of repair analyses, and assignment of SM&R codes using reference (h).

f. It is important that MPs include intended operational and support environments of the weapons system, existing maintenance policies and instructions, and alternate support concepts. Details of the operating and support environment are available in the ORD and the acquisition strategy. The existing maintenance policies, following references (i) and (j), must be carefully considered. It is, however, equally important that alternate support concepts, such as CLS, and Direct Vendor Delivery (DVD), be considered to realize affordable readiness goals. The MP must also be compatible with the Integrated Maintenance Concept (IMC) which tailors fleet maintenance programs, and allocates scheduled maintenance tasks between organic depots, private industry, and fleet maintenance activities, based on Reliability Centered Maintenance (RCM) analyses and affordability considerations.

5. Policy

a. The TEAM shall develop, issue, review, and update MPs, which

establish effective life cycle logistics support, for all new and in-service equipment.

b. The approved MP shall be issued electronically. Enclosure (1) provides the recommended format. When a design change or other action necessitates revision of an existing MP, the revised MP will be updated and issued in a format compatible with that used for the original issue, if proven more affordable.

c. Approved MPs will be reviewed for required changes every three years, or more often if changes to the operational requirement, equipment configuration, equipment reliability, or support concept (i.e., change to logistic element) dictate changes to the MP. When the review indicates changes in the quantity or distribution of support resources are required the MP will be revised (including incorporation of all Class I changes), and re-issued for all affected systems and equipment.

d. Prior to completion of the MP, the FST, and/or contractor developing the MPs shall screen the Defense Logistics Information Services (DLIS) for National Stock Numbers (NSNs) that may have already been assigned to components listed in the MP. Screening will be conducted following reference (k). The results of DLIS screening will be incorporated into the MP prior to approval.

e. The MPs shall designate items on the Consolidated Remain-In-Place List (CRIPL) as required by reference (i) and described in reference (l).

f. MP status information, as noted in enclosure (2), shall be available to TEAM members and fleet representatives for all MPs within 30 days of approval.

g. For new weapon system acquisitions, and major modifications, the APML shall approve and issue the MP after PCA (or as the equipment design is frozen) plus 30 days. Maintenance Plans shall be approved sufficiently early to allow time for acquisition and fielding of the required support resources to support Initial Operational Capability (IOC). The authority to approve Maintenance Plans will not be delegated to LMs, LEMs, IPTs, FSTs or other organizations.

h. The approved MP shall be the basis for acquisition of support resources.

i. The approved MP shall be provided to Naval Air Technical Data and Engineering Service Command (NAVAIRTECHDATAENGSERVCOM), code 3.3, within 45 days of approval, to be maintained in the technical data repository.

6. Responsibilities

a. Design Interface/Maintenance Planning Department (AIR-3.2) will:

(1) Establish and maintain design interface, and perform maintenance planning from concept exploration through disposal to ensure maintainability, readiness, supportability and affordability.

(2) Define the maintenance planning process elements.

(3) Provide guidance and training for the MP Program, as required.

b. Logistics Policy, Processes, and Maintenance Technology Division (AIR-3.6.1) will generate, issue, and implement NAVAIR MP Program policy within guidelines of references (a) through (m).

c. Logistics Information Systems Division (AIR-3.6.2) will maintain electronic links to program maintained MP files capable of providing MP status information via network and/or internet connections. The status information includes that listed in enclosure (2) for use by the TEAM (Program Executive Officer (PEO), Program Manager, Air (PMA), APMLs, Product Support Team Leader (PSTL), LM, LEM, IPT, and FST) and fleet users world-wide.

d. Reliability and Maintainability Engineering Division (AIR-4.1.6) shall provide reliability and maintainability data, including failure modes and effects analysis results, and predicted operational reliability values to support the development of required maintenance planning information.

e. Weapons and Targets Systems Engineering Division (AIR-4.7.1) will provide reliability and maintainability data for weapons and targets, including failure modes, effects analysis results, and predicted operational reliability values to support the development of required maintenance planning information.

f. APMLs, PSTLs, LMs, LEMs, IPTs, or FSTs shall:

(1) Ensure approval of MPs by PCA (or design freeze) plus 30 days.

(2) Ensure adequate funds are budgeted and contract requirements are established (if necessary) to develop, acquire, and sustain the maintenance planning information necessary for the support infrastructure. MP funding requirements will be contained in the Logistics Requirements and Funding Summary (LRFS).

(3) Review the applicability and accuracy of maintenance planning information and changes, prior to approval of the MP, and periodically, as required by paragraph 5c of this instruction.

(4) Provide MPs in electronic format, unless maintaining hard copy format is proven more affordable.

(5) Maintain central file of approved MPs and revisions for assigned equipment in electronic format. The central file should be capable of allowing remote access to electronic maintenance planning information files for all required users, including fleet customers.

(6) Ensure that for those contracts containing warranties, the impact of the warranty provisions are addressed, as required by reference (m), as part of the MP. Remedies to usual repair of warranted items will be addressed as part of the maintenance concept in the MP.

(7) Ensure that DLIS screening is provided. Where major differences in maintenance philosophies preclude resolution, the IPT will document the conflict and consider the issue for resolution at the next IPT meeting. When conflicting (e.g. inter-service) SM&R codes exist in approved NAVAIR MP, the Naval Inventory Control Point (NAVICP) will conduct item selection per the MP. Following the item selection process, NAVICP will request the service, which has already established the item, to register the Navy as a user. At the same time, NAVICP will advise the other service(s) of the Navy's decision to assign different SM&R codes. The items will then be subsequently addressed under the Joint Service regulations for multi-service used (inconsistently managed) items. Photographic equipment, meteorological equipment, and conventional ammunition are not included in above procedures.

(8) Ensure that CRIPL items are identified as part of the MP data following references (i) and (l).

(9) Ensure the MP, or revisions to maintenance planning information, is generated and supported by appropriate supportability analyses.

(10) Ensure revisions to existing MPs are compatible with the original format.

(11) Ensure all approved MPs are provided to NAVAIRTECHDATA-ENGSERVCOM (Code 3.3) within 45 days of approval, to be maintained in the technical data repository.

g. NAVAIRTECHDATAENGSERVCOM Technical Data Department (Code 3.3) shall:

(1) Maintain approved MPs in the technical data repository to the extent necessary to provide archive information for MPs.

(2) Convert hard copies of MPs to electronic or other accessible storage media, when proven more affordable than maintaining hard copy.

h. The NAVICP shall utilize approved MPs as source of data to support provisioning and Packaging, Handling, Storage, and Transportation (PHS&T) requirements for assigned equipment.

W. B. MASSENBURG

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MAINTENANCE PLAN (Format)
Part I - General Considerations

1. Heading Information

Maintenance Plan No. _____

Item Name _____
Application _____
Reference Number _____
NSN _____
NALC _____
SERD _____
Basis Number _____
DLIS Screen Date _____

TEC _____
WUC/IPC _____
CAGE _____
SM&R Code _____

Approved by _____
Title _____

Preparing Activity _____
Prepared by _____
Date of Submission _____
Reviewed by _____
Revision Code _____
Date of Revision _____
Date approved _____

2. Narrative

A. Design Description

B. Maintenance Plan Summary

C. Plan Rationale.

MAINTENANCE PLAN (Format)

Part I - General Considerations (Continued)

2. Narrative (Continued)

Maintenance Plan No. _____

MAINTENANCE PLAN (Format)
Part II - Repair Capability

1. Heading Information

Maintenance Plan No. _____

Item Name _____
Application _____
Reference Number _____
NSN _____
NALC _____
SERD _____
Basis Number _____
DLIS Screen Date _____

TEC _____
WUC/IPC _____
CAGE _____
SM&R Code _____

Approved by _____
Title _____

Preparing Activity _____
Prepared by _____
Date of Submission _____
Reviewed by _____
Revision Code _____
Date of Revision _____
Date approved _____

2. Repairable Items/Critical Consumables

WUC/ IPC	Indenture Code	Reference Number	Item Name	SM&R	DMIL Code	RIP	I/R	NSO	MTBF	Wear Out Life	Maintenance Plan Technical Factors						
											GRF	MRF	BDSR or DSR	MRR	SAR	RSR	RRR

MAINTENANCE PLAN (Format)
Part II - Repair Capability (Continued)

2. Repairable Items/Critical Consumables (Continued)

WUC/ IPC	Indenture Code	Reference Number	Item Name	SM&R	DMIL Code	RIP	I/R	NSO	MTBF	Wear Out Life	Maintenance Plan Technical Factors						
											GRF	MRF	BDSR or DSR	MRR	SAR	RSR	RRR

MAINTENANCE PLAN (Format)
Part III - Maintenance Requirements

1. Heading Information

Maintenance Plan No. _____

Item Name _____
Application _____
Reference Number _____
NSN _____
NALC _____
SERD _____
Basis Number _____
DLIS Screen Date _____

TEC _____
WUC/IPC _____
CAGE _____
SM&R Code _____
Approved by _____
Title _____

Preparing Activity _____
Prepared by _____
Date of Submission _____
Reviewed by _____
Revision Code _____
Date of Revision _____
Date approved _____

2. Maintenance

Requirement Number	Requirement	Maintenance Level	Interval	SE Requirements

MAINTENANCE PLAN (Format)
Part III - Maintenance Requirements (Continued)

2. Maintenance (Continued)

Requirement Number	Requirement	Maintenance Level	Interval	SE Requirements

Maintenance Plan Status Information

The following information is required by paragraph 5f of NAVAIRINST 4790.22A to provide for status of Maintenance Plans for assigned equipment.

Field Name	Field Size	Responsibility	Description
MAINTENANCE PLAN (MP)	10 char.	Assigned by NAVAIRTECHDATAENGSERVCOM.	MP system identification code and number.
WORK UNIT CODE (WUC)	32 char.	Assigned by NAVAIRTECHDATAENGSERVCOM.	WUC for the equipment.
NOMENCLATURE	36 char.	Assigned in coordination with NAVAIRTECHDATA-ENGSERVCOM.	Nomenclature (Item Name or Type Designator) for the equipment.
DATE APPROVED	10 char.	Provided Assistant Program Manager for Logistics (APML) approving MP.	Approval date of the MP, when approved by the APML
FLEET SUPPORT TEAM (FST)	24 Char.	Provided by the program office.	The FST code (used to be known as Cognizant Field Activity (CFA) which has responsibility for the item.
REVISION NUMBER (REV NO)	1 char.	Provided by the program office.	The REV NO, if a revised MP, in order of sequence (1, 2, 3, etc.).
DATE REVISED	10 char.	Provided by the program office.	The date on which the MP revision was approved and issued.
STATUS	1 char.	Provided by the program office.	Present status code of the MP.
LIFE CYCLE (LC) PHASE	10 char.	Provided by the program office.	Phase or cycle in the life of the equipment.
TYPE, MODEL, SERIES (T/M/S)	20 char.	Provided by the program office.	The aircraft or equipment T/M/S for the equipment.